1. In a system where an incoming video stream has a bit rate, a method for transcoding the incoming video stream to reduce the bit rate of the video stream, the method comprising:

decoding an incoming video stream, wherein parameters of the incoming video stream are extracted from the incoming video stream and used in generating a new video stream;

spatially reducing images of the incoming video stream by a selected factor;

generating a new video stream that includes spatially reduced images using one or more of the parameters extracted from the incoming video stream, wherein less than all of the parameters of the incoming video stream are re-computed for the new video stream.

2. A method as defined in claim 1, wherein spatially reducing images of the incoming video stream by a selected factor further comprises re-sampling the incoming video stream after it has been decoded.

3. A method as defined in claim 1, wherein generating a new video stream further comprises at least one of:

scaling f_codes of the incoming video stream as the f_codes is decoded; and

scaling f_codes of the incoming video stream after decoding an entire picture of the video stream.

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8. A method as defined in claim 1, wherein generating a new video stream further comprises selecting motion vectors for each picture that requires motion vectors.

9. A method as defined in claim 8, wherein selecting motion vectors further comprises determining a value of the motion vectors from motion vectors of the incoming video stream.

10. A method as defined in claim 9, wherein determining a value of the motion vectors from motion vectors of the incoming video stream further comprises determining a weighted mean scaled value of the motion vectors from motion vectors of the incoming video stream that map to a particular macroblock of the new video stream.

11. A method as defined in claim 8, wherein selecting motion vectors further comprises:

selecting candidate motion vectors for a particular macroblock of the new video stream, wherein the candidate motion vectors comprise scaled motion vectors from the incoming video stream and a weighted mean scaled vector; and

determining a best motion vector from the candidate motion vectors, wherein the best motion vector provides a best fit to the data.

12. A method as defined in claim 8, further comprising performing fine grain motion estimation for the motion vectors.

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4. A method as defined in claim 1, wherein generating a new video stream further comprises determining a macroblock type for each macroblock of the new video stream.

5. A method as defined in claim 4, wherein determining a macroblock type for each macroblock comprises:

determining a macroblock type for each macroblock of the incoming video stream that maps to a particular macroblock of the new video stream, wherein the macroblock type of the macroblocks from the incoming video stream are included in the parameters of the incoming video stream;

weighting each macroblock type of the macroblocks in the incoming video stream according to their contribution to the particular macroblock of the new video stream;

taking a mean of the macroblock types from the incoming video stream; and

rounding the mean, wherein the rounded mean determines the macroblock type for the particular macroblock of the new video stream.

6. A method as defined in claim 5, further comprising determining other flags associated with the macroblock type.

7. A method as defined in claim 6, wherein the flags comprise a quant flag, a forward flag, a backward flag, and a pattern flag.

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17. A method as defined in claim 16, wherein determining a quantizer scale of the new video stream using a quantizer scale of the incoming video stream further comprises determining a quantizer scale using one of:

a weighted mean rounded procedure;

a weighted max rounded procedure;

a weighted min rounded procedure; and

a weighted median rounded procedure.

18. A method as defined in claim 1, further comprising determining a coded block pattern.

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13. A method as defined in claim 8, wherein selecting motion vectors comprises one or more of:

selecting weighted mean scaled motion vectors;

selecting scaled motion vectors of the incoming video stream; and

selecting field vectors.

14. A method as defined in claim 1, wherein generating a new video stream further comprises determining flags of the new video stream from flags of the incoming video stream.

15. A method as defined in claim 14, wherein determining flags of the new video stream from flags of the incoming video stream further comprises determining a DCT type flag using a weighted mean rounded procedure.

16. A method as defined in claim 1, wherein generating a new video stream further comprises determining a quantizer scale of the new video stream using a quantizer scale of the incoming video stream.

19. A method for transcoding an original video stream using stream parameters that are included in the original stream video stream such that the bit rate of the original video stream is reduced, the method comprising:

decoding the original video stream;

re-sampling the decoded original video stream in order to spatially reduce images of the original video stream by a factor;

determining new stream parameters for a new video stream, wherein the new stream parameters are determined from the stream parameters of the original video stream, wherein only some of the original stream parameters are re-computed and wherein some of the new stream parameters are equal to some of the stream parameters of the original video stream; and

generating the new video stream that includes the spatially reduced images using the new stream parameters.

20. A method as defined in claim 19, wherein generating the new video stream comprises at least one of:

scaling f_codes of the original video stream as the f_codes are decoded; and

scaling f_codes of the original video stream after decoding an entire picture of the original video stream.

21. A method as defined in claim 19, wherein generating the new video stream further comprises determining flags for the new video stream using flags of the original video stream.

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26. A method as defined in claim 19, wherein generating a new video stream comprises selecting motion vectors for each picture of the new video stream that requires motion vectors, wherein original motion vectors are included in the stream parameters of the original video stream.

27. A method as defined in claim 26, wherein selecting motion vectors further comprises:

determining a weighted mean scaled value for motion vectors of macroblocks of the original video stream that map to a particular macroblock of the new video stream; and

assigning the weighted mean scaled value to motion vectors of the particular macroblock.

28. A method as defined in claim 26, wherein selecting motion vectors further comprises:

selecting candidate motion vectors for a particular macroblock of the new video stream, wherein the candidate motion vectors comprise scaled motion vectors from the original video stream and weighted mean scaled motion vectors; and

determining a best motion vector from the candidate motion vectors, wherein the best motion vector provides a best fit to the data of the new video stream.

29. A method as defined in claim 26, further comprising performing fine grain motion estimation for the motion vectors.

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22. A method as defined in claim 19, wherein generating the new video stream further comprises determining a macroblock type for each macroblock of the new video stream.

23. A method as defined in claim 22, wherein determining a macroblock type for each macroblock of the new video stream comprises:

determining a macroblock type for each macroblock of the original video stream that maps to a particular macroblock of the new video stream, wherein the macroblock type of the macroblocks from the original video stream are retrieved from the stream parameters of the original video stream;

determining a weighted mean rounded value for the macroblock type of the macroblocks of the original video stream that map to the particular macroblock; and

assigning the weighted mean rounded value as the macroblock type of the particular macroblock.

24. A method as defined in claim 23, further comprising determining other flags associated with the particular macroblock.

25. A method as defined in claim 24, wherein the flags comprise a quant flag, a forward flag, a backward flag, and a pattern flag.

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30. A method as defined in claim 19, wherein generating the new video stream further comprises determining a DCT type flag for each macroblock using a weighted mean rounded procedure.

31. A method as defined in claim 19, wherein generating the new video stream further comprises determining a quantizer scale using one of:

a weighted mean rounded procedure;

a weighted max rounded procedure;

a weighted min rounded procedure; and

a weighted median rounded procedure.

32. A method as defined in claim 19, further comprising determining a coded block pattern for each macroblock.

33. In a system wherein an incoming video stream has a bit rate, a method for transcoding the incoming video to reduce the bit rate of the incoming video stream by using stream parameters of the incoming video stream, the method comprising:

decoding the incoming video stream, wherein stream parameters of the decoded video stream are used in generating a new video stream;

spatially reducing images of the incoming video stream by subsampling the incoming video stream;

generating new motion vectors for each macroblock of the new video stream that requires motion vectors using motion vectors from the incoming video stream;

determining a macroblock type for each macroblock of the new video stream, wherein the macroblock type is a weighted mean rounded value determined from macroblocks of the incoming video stream that map to a particular macroblock of the new video stream; and

generating the new video stream using the new motion vectors, the new macroblock types, the stream parameters, and the reduced images, wherein some of the stream parameters from the incoming video stream that are included in the new video stream are unchanged in the new video stream.

34. A method as defined in claim 33, wherein generating new motion vectors for each macroblock of the new video stream that requires motion vectors further comprises determining a weighted mean scaled value from the macroblocks of the incoming video stream that map to a particular macroblock of the new video stream.

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35. A method as defined in claim 33, wherein generating new motion vectors for each macroblock of the new video stream that requires motion vectors further comprises determining a motion vector that provides a best fit to the data of the new video stream from candidate vectors, wherein the candidate vectors comprise scaled motion vectors from the incoming video stream and a weighted mean scaled vector derived from the scaled motion vectors.

36. A method as defined in claim 35, further comprising performing fine grain motion estimation for the motion vectors.

37. A method as defined in claim 33, wherein generating the new video stream further comprises determining a DCT type flag, a quantizer scale, and a coded block pattern for the new video stream.

38. A method as defined in claim 33, further comprising at least one of:

scaling f_codes of the original video stream as the f_codes are decoded; and

scaling f_codes of the original video stream after decoding an entire picture of the original video stream.

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39. A computer program product for implementing a method for transcoding an original video stream using stream parameters that are included in the original stream video stream such that the bit rate of the original video stream is reduced, the computer program product comprising:

a computer readable medium having computer executable instructions for performing the method, the method comprising:

decoding the original video stream;

re-sampling the decoded original video stream in order to spatially reduce images of the original video stream by a factor;

determining new stream parameters for a new video stream, wherein the new stream parameters are determined from the stream parameters of the original video stream, wherein only some of the original stream parameters are re-computed and wherein some of the new stream parameters are unchanged; and

generating the new video stream that includes the spatially reduced images using the new stream parameters.

40. A computer program product as defined in claim 39, wherein generating the new video stream comprises at least one of:

scaling f_codes of the original video stream as the f_codes are decoded; and

scaling f_codes of the original video stream after decoding an entire picture of the original video stream.

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41. A computer program product as defined in claim 39, wherein generating the new video stream further comprises determining a macroblock type for each macroblock of the new video stream.

42. A computer program product as defined in claim 41, wherein determining a macroblock type for each macroblock of the new video stream comprises:

determining a macroblock type for each macroblock of the original video stream that maps to a particular macroblock of the new video stream from the stream parameters of the original video stream;

determining a weighted mean rounded value for the macroblocks of the original video stream that map to the particular macroblock; and

assigning the weighted mean rounded value as the macroblock type of the particular macroblock.

43. A computer program product as defined in claim 41, further comprising determining other flags associated with the particular macroblock.

44. A computer program product as defined in claim 43, wherein the flags comprise a quant flag, a forward flag, a backward flag, and a pattern flag.

45. A computer program product as defined in claim 39, wherein generating a new video stream comprises selecting motion vectors for each picture of the new video stream that requires motion vectors, wherein original motion vectors are included in the stream parameters.

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46. A computer program product as defined in claim 45, wherein selecting motion vectors further comprises:

determining a weighted mean scaled value for motion vectors of macroblocks of the original video stream that map to a particular macroblock of the new video stream; and

assigning the weighted mean scaled value to motion vectors of the particular macroblock.

47. A computer program product as defined in claim 45, wherein selecting motion vectors further comprises:

selecting candidate motion vectors for a particular macroblock of the new video stream, wherein the candidate motion vectors comprise scaled motion vectors from the original video stream and weighted mean scaled motion vectors; and

determining a best motion vector from the candidate motion vectors, wherein the best motion vector provides a best fit to the data of the new video stream.

48. A computer program product as defined in claim 45, further comprising performing fine grain motion estimation for the motion vectors.

49. A computer program product as defined in claim 49, wherein generating the new video stream further comprises determining a DCT type flag for each macroblock using a weighted mean rounded procedure.

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50. A computer program product as defined in claim 49, wherein generating the new video stream further comprises determining a quantizer scale using one of:

a weighted mean rounded procedure;

a weighted max rounded procedure;

a weighted min rounded procedure; and

a weighted median rounded procedure.

51. A computer program product as defined in claim 39, further comprising determining a coded block pattern for each macroblock.

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52. In a system wherein an incoming video stream has a bit rate, a computer program product for implementing a method for transcoding the incoming video to reduce the bit rate of the incoming video stream by using stream parameters of the incoming video stream, the computer program product comprising:

a computer readable medium having computer executable instructions for performing the method, the method comprising:

decoding the incoming video stream, wherein stream parameters of the decoded video stream are used in generating a new video stream;

spatially reducing images of the incoming video stream by subsampling the incoming video stream;

generating new motion vectors for each macroblock of the new video stream that requires motion vectors using motion vectors from the incoming video stream;

determining a macroblock type for each macroblock of the new video stream, wherein the macroblock type is a weighted mean rounded value determined from macroblocks of the incoming video stream that map to a particular macroblock of the new video stream; and

generating the new video stream using the new motion vectors, the new macroblock types, and the reduced images, wherein other stream parameters from the incoming video stream are unchanged in the new video stream.

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53. A computer program product as defined in claim 52, wherein generating new motion vectors for each macroblock of the new video stream that requires motion vectors further comprises determining a weighted mean scaled value from the macroblocks of the incoming video stream that map to a particular macroblock of the new video stream.

54. A computer program product as defined in claim 52, wherein generating new motion vectors for each macroblock of the new video stream that requires motion vectors further comprises determining a motion vector that provides a best fit to the data of the new video stream from candidate vectors, wherein the candidate vectors comprise scaled motion vectors from the incoming video stream and a weighted mean scaled vector derived from the scaled motion vectors.

55. A computer program product as defined in claim 54, further comprising performing fine grain motion estimation for the motion vectors.

56. A computer program product as defined in claim 52, wherein generating the new video stream further comprises determining a DCT type flag, a quantizer scale, and a coded block pattern for the new video stream.

57. A computer program product as defined in claim 52, further comprising at least one of:

scaling f_codes of the original video stream as the f_codes are decoded; and

scaling f_codes of the original video stream after decoding an entire picture of the original video stream.

58. A spatial transcoder for transcoding an incoming video stream in order to reduce a bit rate of the incoming video stream, the spatial transcoder comprising:

a stream decoder for decoding the incoming video stream and for extracting stream parameters from the incoming video stream;

a resampler for spatially reducing a size of images of the incoming video stream; and

a stream generator for generating an output video stream that has a lower bit rate and a smaller image size than the incoming video stream, wherein the stream generator uses the stream parameters to generate new stream parameters for the output video stream using the original stream parameters.

59. A spatial transcoder as defined in claim 58, wherein the stream parameters comprise one or more of:

f_codes; motion vectors; macroblock type; motion type, motion vertical field select; forward prediction type; backward prediction type; DCT type; quantizer scale; coded block pattern; and DCT coefficients.

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